STATEMENT OF WORK NO. NWS-J075-WS4000

STATEMENT OF WORK

FOR THE

BALLOON INFLATION AND LAUNCH SHELTER (BILS)

3 MARCH, 2000

Prepared by:

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TABLE OF CONTENTS

BILS STATEMENT OF WORK

1.0 SCOPE.

1.1 General. This Statement of Work (SOW) identifies the effort required to be performed by the Contractor for the design, fabrication, test, and acceptance of the Balloon Inflation and Launch Shelter (BILS), as defined in Specification NWS-J075-SP4000.

a. BILS are to be installed at selected National Weather Service (NWS) sites throughout the contiguous USA. Generally, BILS are to be co-located with Weather Forecast Offices (WFO)/Weather Service Offices (WSO). Most BILS will be installed on the ground near WFO/WSO buildings, however some will be installed on the top of buildings.

b. This SOW includes tasks to ensure the quality, safety, maintainability, and operational reliability of the system and equipment to be procured. It also identifies the associated program management, integrated logistic support, and technical documentation requirements.

1.2 Background. Since 1938, the National Weather Service (NWS) has obtained upper air data through the use of balloon-borne radiosondes. NWS releases radiosondes from a network, currently comprised of 102 sites, in the conterminous United States, Alaska, the Pacific area, and the Caribbean. However, this network has fallen into obsolescence. The NWS has begun a program to replace the radiosonde network. The National Center for Atmospheric Research (NCAR) was contracted by the NWS to develop an experimental prototype of the modernized ground system. NCAR produced the NEXt Upper-Air Sounding (NEXUS) system. As part of the NEXUS program, NCAR also designed and developed a prototype Balloon Inflation and Launch Shelter (BILS). The BILS is a semiautomatic facility to support the preparation and launch of helium filled weather balloons. These balloons carry an instrument package, called a radiosonde which samples atmospheric parameters of temperature, relative humidity, pressure, and position data and transmits this data to a ground receiver. The BILS is equipped to store supplies, and contain the balloon while it is manually prepared for flight. In addition to the radiosonde, the flight train consists of a parachute and a dereeler. A balloon restraint holds the inflated balloon in place until the launch signal is received. The BILS is a transportable structure approximately 8 feet wide by 14 feet long by 11 feet high, with a hatch, that when open, allows the release of the weather balloon through the roof. Electronic signals are provided to the BILS through a Government Furnished Equipment (GFE) Control Box to direct various flight preparation and initiation functions. Switch and sensor status signals are sent to the Control Box. This type shelter is smaller than the conventional high bay used at most sites and requires less land clearance for a balloon launch and is intended for use at certain sites where space restrictions prohibit the use of the conventional shelter. Various changes were made to the NCAR design to address problems identified during testing. Drawing NWS-J075-DR1000 shows this modified BILS design. This relatively low cost design has proven to meet the operational needs of the NWS during six years of testing and operational use.

1.3 Program Objectives. A major program objective is to acquire a BILS that utilizes Non-Development Items (NDI)/Contractor-Off-The-Shelf (COTS) equipment whenever it is capable of fulfilling the Government operational requirements either "as is" or with minor modification. The NDI/COTS equipment must be proven under operational conditions. If it is determined that no adequate NDI/COTS equipment/components are available to satisfy a specific function, then new items/components/software/firmware will be fabricated. If new design and fabrication is required for some items, components and equipment supporting the fabricated items shall be NDI/COTS or modified NDI/COTS whenever possible. Other objectives are to have:

- A low-cost and maintenance free (minimum maintenance) shelter.
- One lightweight shelter configuration that can be used on both rooftop and ground installations.

1.4 Program Phases. The Contractors BILS Program is divided into three phases.

Phase 1 - Engineering and Design.
Phase 2 - First Article Fabrication and Testing.
Phase 3 - Production .

2.0 APPLICABLE DOCUMENTS. The following documents form a part of this SOW and are contractually binding. All documents apply in full, unless otherwise specified herein. The Contractor shall comply with the current document issue in effect as of the date of execution of this contract.

2.1 NWS Specifications and Documents

NWS-J075-DR1000 Balloon Inflation and Launch Shelter (BILS)

NWS-J075-SP4000 Balloon Inflation and Launch Shelter (BILS), System Specification

Copies of this document are available from the National Oceanic and Atmospheric Administration (NOAA) National Weather Service, 1305 East-West Highway, W/OFA512, Silver Spring MD 20910.

2.2 Paragraph Referencing. When paragraphs are referenced herein (whether to other paragraphs in this SOW or to other documents) all subordinate paragraphs to those references shall apply.

3.0 REQUIREMENTS.

3.1 General. The Contractor shall perform preliminary and detailed design of the BILS, followed by fabrication and test of a first article. Following first article testing and Government approval, the Contractor shall fabricate, assemble, test, and prepare BILS production items for delivery as defined in NWS-J075-SP4000. In this document and any other Government generated document utilized in this

procurement, the term Government approval (or any other similar terms) shall be construed as specific approval from the Contracting Officer (CO) or designee assigned to this procurement.

3.1.1 Preliminary Design. The Preliminary design for the BILS is reflected in drawing NWS-J075-DR1000. These drawings are provided for information purposes only and are to be used as guidance by the Contractor in the design of a BILS that meets the requirements of specification NWS-J075-SP4000.

3.2 System Engineering and Design.

3.2.1 Engineering and Design Requirements. The Contractor shall perform system engineering analysis and design of the BILS production system in accordance with specification NWS-J075-SP4000. This specification contains both functional requirements and details on the Preliminary design. The design proposed by the Contractor shall meet all functional requirements. The Contractor may propose an alternative design which deviates completely or in part from the Preliminary design for Government review and approval. If the Contractor proposes an existing or new design that deviates from the Preliminary design, they shall provide analysis and test data demonstrating how the proposed design satisfies each functional requirement of the specification. For any alternative design, the Contractor shall also provide a test plan which describes how each functional requirement of the specification shall be satisfied. The test plan shall fully describe all component level, sub-assembly level, integration, and system level testing to be performed in order to verify that the proposed design is capable of accomplishing the intended function under any combination of environmental conditions which the shelter may be subjected to during operations at any NWS field site in the contiguous U.S. The Contractor shall also provide an Interface Control Document describing all mechanical and electrical interfaces with the GFE Control Box for all alternative designs.

3.2.2 Engineering Tasks. The Contractor shall perform the following special engineering analysis and engineering tasks.

3.2.2.1 Environmental Engineering. The Contractor shall perform environmental engineering analysis to show the design satisfies the environmental requirements in specification NWS-J075-SP4000.

3.2.2.2 Safety/Human Engineering. The Contractor shall perform safety and human engineering analysis to ensure that safety and human engineering requirements for the BILS are achieved.

3.2.2.3 Reliability, Maintainability, and Availability (RMA). The Contractor shall perform RMA analysis and provide all available Specification Data Sheets and test results data for COTS and manufactured equipment, materials, and processes (if not provided with the proposal).

3.2.2.4 Shelter Exterior Appearance. The shelter exterior appearance and color design shall be submitted to the Government for approval as a part of the Preliminary Design Review (PDR) and Critical Design Review (CDR data) packages.

3.2.2.5 Single Hatch Design. The Contractor shall design and develop one hatch and hatch mechanism configuration that works with both rooftop and ground configurations (if two shelter configurations are required).

3.2.3 Preliminary Design. The Contractor shall perform preliminary engineering analysis and design to meet specified functional and physical characteristics and requirements for the BILS System.

3.2.4 Preliminary Design Review (PDR). The PDR shall be used to review and validate the specifications, drawings, and supporting documentation submitted by the Contractor. The Contractor shall conduct the PDR to demonstrate that all the functions of the specification NWS-J075-SP4000 have been properly, completely, and accurately allocated to the correct subsystem/assembly. The Contractor shall conduct the PDR 60 days after contract award. The Contractor shall prepare and submit to the Government the PDR Data Package for review, comment, and approval prior to the PDR.

3.2.5 Detailed Design. Following Government approval of preliminary design (s), the Contractor shall perform detailed engineering analysis and design of the BILS system, subsystems, assemblies, and functions.

3.2.6 Critical Design Review (CDR). The Contractor shall conduct a CDR to review and validate the detailed BILS system and subsystem designs before first article hardware fabrication is initiated. The Contractor shall present detailed system product drawings to the Government. The Contractor shall conduct the CDR 120 days after contract award to demonstrate to the Government that the system meets the requirements of specification NWS-J075-SP4000. The Contractor shall prepare and submit to the Government the Critical Design Review Data Package for review, comment, and approval prior to the CDR. Upon Government approval of the CDR Data Package, the Contractor shall initiate fabrication of the First Article BILS and its supporting systems and equipment.

3.2.7 Design Change Reviews, Technical Reviews, and Interchange Meetings. The Contractor shall plan, support, and conduct reviews, audits, and meetings. The purposes of design reviews, audits, and meetings are to review the system requirements and capabilities, and to review the contractor's system engineering efforts as the BILS program proceeds from drawing concept to system acceptance. Unless otherwise stated, all special technical reviews, audits, and meetings shall be conducted in the contractor's facilities.

3.2.8 Engineering Drawings. The Contractor shall prepare, update and submit all necessary drawings and associated lists (and all drawings produced in the performance of this contract) required for the design, fabrication, assembly, integration, and test of the BILS. BILS engineering drawings include

indexes, product drawings, interface drawings, commercial drawings, associated drawing lists, and supporting technical requirements documents.

3.2.8.1 Drawing Index. The Contractor shall prepare and maintain an index of all drawings, associated lists, and technical requirement documents produced or used in the design, fabrication, and test of the BILS. The Index shall identify drawings to specific configuration items and system/equipment modifications. The Index shall also include the drawing number, title, applicable revision letter/number, and date of each drawing. This index shall be prepared (or updated) in Contractor format and provided to the Government as an attachment to the Contractor's Progress, Status and Management Report.

3.2.8.2 System Product Drawings. The Contractor shall prepare and maintain product drawings and associated lists for all new design or production systems, subsystems, and assemblies or for modified commercial systems, subsystems, and assemblies. Detailed arrangement, assembly, and single-line diagram drawings shall be submitted for Government approval.

3.2.8.3 Commercial Equipment Drawings. The Contractor shall provide all available commercial equipment drawings and associated lists for all NDI/COTS equipment. The Contractor shall provide commercial drawings and associated lists for Government approval.

3.2.8.4 Drawing Electronic Media. All drawings developed or modified for this program by the Contractor or any subcontractor/vendor shall be prepared using AUTOCAD, Version 12/13/14 or another Computer-Aided Design (CAD) system or application approved by the government.

3.3 First Article Fabrication and Testing. First article fabrication and testing includes the following:

a. First Article Fabrication and Assembly.
b. Factory Test of First Article Hatch.
c. Factory T & E of First Article Shelter Components and Assemblies.
d. Factory First Article Integration T & E (Complete shelter with hatch)
e. Perform First Article Installation Checkout.
f. Perform First Article Validation at Sterling Test Site.
g. Perform System Performance T & E at Sterling Test Site.

3.3.1 First Article Factory Fabrication and Assembly. Following CDR approval, the Contractor shall fabricate, assemble and integrate one (1) complete BILS system. If there are separate designs for rooftop and ground configurations, either the rooftop or the ground design configuration shall be fabricated and used as the first article. The Government will select which configuration is to be the first article within 30 days after CDR (concurrent with CDR data package approval). The Contractor shall maintain strict configuration management on the system. The system shall be initially installed at the contractor's plant test facility where it shall undergo factory subsystem and system testing. At the

completion of factory testing, the system shall be delivered to the National Weather Service Sterling Test Site for on-site system testing at Contractor expense.

3.3.1.1 Shelter Subsystem (without Hatch). The Contractor shall fabricate, assemble, and integrate the first article shelter. The shelter includes all supporting systems, airfoils, and gas storage brackets/racks/housings. Gas storage brackets, racks, and housings that are not COTS (i.e. non-standard) shall be fabricated and provided by the Contractor.

3.3.1.2 Hatch Subsystem. The Contractor shall fabricate and assemble the first article hatch for testing. The hatch shall be the identical for rooftop and ground configuration BILS (if two shelter configurations are necessary).

3.3.2 First Article Factory T & E. The Contractor shall perform factory testing and evaluation on all parts, components, subassemblies, and assemblies of the BILS first article prior to system assembly and integration. Performance characteristic from component data sheets may be submitted to verify specification compliance instead of testing for specific environmental conditions which can not be duplicated at the Contractor's facility.

3.3.3 Factory Test and Evaluation - Hatch - First Article. All test requirements and specification requirements must be achieved on the hatch first article. First article testing shall consist of one (1) complete hatch. The Contractor shall maintain strict configuration management on this system in order to assure identification for design and testing purposes. The hatch first article shall be installed at the contractor's plant test facility where it shall undergo factory testing.

3.3.3.1 Hatch Performance Tests. The Contractor shall test the performance effectiveness and characteristics of the hatch through factory testing on a stand-alone hatch in a "bench test" or laboratory environment. Hatch performance tests shall be witnessed by the Government. This testing shall validate that the hatch and its mechanical, hydraulic, and electrical equipment are capable of operating under or withstanding freezing conditions, and all snow, wind, ice, and other loads specified in specification NWS-J075-SP4000.

3.3.3.2 Hatch Factory Reliability T & E and Validation. Following successful factory performance tests, hatch reliability requirements shall be validated. The Contractor shall perform reliability tests on the first article hatch. The reliability tests shall be performed at the factory and will be witnessed by the Government. The reliability requirements specified in specification NWS-J075-SP4000 shall be validated. The Contractor shall maintain a chronological test log which shall be reviewed at all technical reviews. The log shall provide the dates and times of all significant events. Events which shall be recorded are:

a. Power on and off times of each equipment or equipment group.
b. Start and stop times of testing.
c. All interruptions, including all failure details.

d. Any failure of or unusual conditions in equipment under test.
e. Any repairs or adjustments made as well as parts replaced.

3.3.4 Shelter System Assembly and Integration. The Contractor shall assemble the first article shelter with the first article hatch in the factory for system testing prior to on-site testing.

3.3.5 Factory System Integration and Interface T & E. The Contractor shall demonstrate in the factory that the first article BILS has been effectively assembled and integrated and meets all system reliability, maintainability, and operational requirements listed in specification NWS-J075-SP4000.

3.3.6 First Article BILS Delivery and Installation. The complete first article BILS shall be installed ready for testing in accordance with this SOW and with specification NWS-J075-SP4000.

3.3.6.1 Delivery - BILS System and Installation Material. Upon completion of factory testing, the Contractor shall pack, ship, and deliver the first article BILS system and all necessary installation material to the Sterling Test Site.

3.3.6.2 BILS First Article Installation. The Contractor shall deliver, off-load, and set into place the first article BILS and all required material items specified by the Contract on a Government prepared pad. The Contractor shall install and perform on-site installation validations, operational checks, and testing. Delivery and installation of the BILS shall be scheduled and coordinated through the Government's designated Sterling facilities representative. The Sterling facilities representative will represent the Contracting Officer's Technical Representative during the equipment installation process, and is the point of contact for all on-site activities.

3.3.7 First Article Operational T & E - Sterling. Following installation checkout, the Contractor shall perform on-site operational tests and demonstrations to the Government. The Contractor shall prepare and submit first article operational test plans and procedures for Government approval. The Contractor shall conduct operational performance testing on the BILS first article in accordance with the Government approved test plans and procedures. The Government shall witness the first article testing. The first article BILS may be tested by the Government after all Contractor tests are successfully completed and all deficiencies have been corrected.

3.3.8 First Article Training. Using the first article, the Contractor shall provide On-The-Job Training (OJT) to two individuals selected by the NWS. OJT shall use a "hands on" approach for the operation and maintenance of the BILS. Training shall be conducted at the factory and/or at the Sterling Test Site, as approved by the Government.

3.3.9 Product Baseline. Following successful testing and configuration audit of the first article, the Government will approve the product baseline for BILS production.

3.4 Production. Production includes the following:

3.4.1 Factory Production - Fabrication, and Assembly. The Contractor shall fabricate, assemble and integrate from ten (10) to twenty four (24) complete BILS systems, contingent upon the availability of funds. The Contractor shall maintain strict configuration management on each system in order to ensure that they are identical in all respects. These systems shall be initially installed at the contractor's plant test facility where they shall undergo factory subsystem and system testing.

3.4.1.1 Shelter Subsystem Production. The Contractor shall fabricate, assemble, integrate, and perform factory QA tests of the shelters at the component, assembly, and subsystem level. Factory production shall commence after Government approval of the product baseline.

3.4.2 Factory Production QA. The Contractor shall perform factory QA on all parts, components, subassemblies, and assemblies of the BILS production models prior to subsystem or system testing and integration. The Contractor shall establish and maintain a quality control system in accordance with the Government approved QA Program. The Contractor shall prepare and submit to the Government a Quality Assurance Plan. The plan shall identify all in-process and test controls to be performed on units, subsystems, and systems to demonstrate compliance with all specification and contract requirements. QA validation is to be accomplished throughout production. All QA validations shall be accomplished to the satisfaction of the COTR and approval of the Contracting Officer.

3.4.3 Factory Testing. The Contractor shall perform the necessary factory tests to support the validation of all the BILS system requirements. Testing shall include the system itself and all external and internal interfaces. Production shelter testing shall include the following:

a. Factory T & E of Shelter Components and Assemblies.
b. Factory System Integration T & E.
c. System Acceptance T & E of complete BILS by the Government at the factory.

3.4.4 Factory T & E of Shelter Components and Assemblies. The Contractor shall demonstrate in the factory that the BILS components and assemblies meet all operational requirements listed in specification NWS-J075-SP4000 prior to integration into an assembled shelter.

3.4.5 Factory System Integration T & E. The Contractor shall demonstrate in the factory that the BILS has been integrated and meets all operational requirements listed in specification NWS-J075-SP4000. During factory integration testing the Contractor shall validate that all internal and external interfaces are functional and comply with Government requirements.

3.4.6 Factory Acceptance T & E. The Contractor shall perform factory acceptance testing on each production BILS. The Government will accept the BILS at the factory.

3.4.7 Warranty. A 10 year warranty on structure and 1 year warranty on equipment parts and labor from date of acceptance shall be provided. Shipping costs shall be paid by the Contractor on all warranty items. Warranties shall not be voided if the BILS are installed by Government personnel.

3.5 Management. The Contractor shall establish a project management team and perform the cost, schedule, and contract management to ensure that contract deliverable requirements are being met. The Contractor shall perform management for design, engineering, first article production and test, and production.

3.5.1 Program Management and Data Management.

3.5.1.1 Program Planning and Management. The Contractor shall perform the planning and develop a total program schedule (with milestones) to include, but not be limited to: engineering, fabrication, assembly, testing, management, logistics, configuration management, and acceptance. The Contractor shall develop an integrated plan and schedule to include all specified program milestones (technical, logistics, management, and manufacturing), formal reviews, data submittals, and other significant events and activities that are considered necessary in relating system program planning to performance and cost objectives.

3.5.1.2 Contractor Progress, Status, and Management Report. The Contractor shall prepare and submit progress status, and management reports. The Contractor shall submit to the Government for approval a production program milestones schedule in Contractor prepared and Government approved format. Upon Government approval of the schedule, the Contractor shall submit updates as an attachment to the Contractor Progress, Status, and Management Report. The Contractor shall include updates to the drawing index, developed under paragraph 3.2.8.1, as an attachment to the progress status report.

3.5.1.3 Government Coordination. The Contractor shall inform the Government of problems which may impact cost, schedule, or performance by the close of the following business day after the problem is identified. The Contractor shall coordinate with the Government to resolve technical and contract problems. All problems shall be documented. The initial notification may be verbal, but shall be followed up in writing. Also refer to Contract Data Requirements List, DD Form 1423 (CDRL) data items A006, A007, A008, A009, and A010 for additional information on problem reporting and disposition.

3.5.1.4 Data Management.

a. Data/Documentation. All documents and data developed or prepared under this contract shall be in standard digital format (either Government specified format or Government approved Contractor standard format) and be made available to the Government electronically in accordance with data Exhibit and (CDRL) delivery requirements. The Contractor shall deliver data as listed and scheduled in the CDRL. This digital format requirement does not apply to documents not expressly prepared or modified for this contract, such as COTS technical manuals, component specification sheets, etc. These documents shall be provided in the commercially available format.

b. Preparation and Distribution of Data. The Contractor shall prepare, publish, package, and distribute all data deliverables specified by the contract. Required data delivery dates to the Government shall be the date of receipt of the data by all addressees indicated on the specific DD Form 1423 (CDRL) specifying that data deliverable.

3.5.2 Configuration Management. The Contractor shall establish, implement, and maintain a configuration management (CM) program. The Contractor shall specify a single authority who shall serve as a focal point for all communications on CM-related issues. The CM program shall be approved by the Government.

3.5.2.1 Configuration Management Plan (CMP). The Contractor shall prepare and submit for Government approval a CMP. The plan shall describe in detail the methodology and procedures for baseline identification and control of hardware, documentation, support equipment, and firmware. The CMP shall detail the contractor's internal interface responsibilities and the interfaces between program management, systems engineering, logistics, maintenance, quality assurance, and testing and evaluation. The CMP shall address planned configuration audits for hardware.

3.5.2.2 Configuration Identification. The Contractor shall maintain a system to identify, label, serialize, and mark all hardware configuration items such that traceability is maintained through all levels of each item and between all representations of that item for the entire CM life cycle. The Contractor shall identify all documentation and firmware containing code documentation, or both, by titling, labeling, numbering, and cataloging procedures.

3.5.2.3 Baseline Management. The Contractor shall provide prescribed support for audits and reviews for establishment of system baselines and control changes to those baseline. The Contractor shall develop and implement detailed procedures in the CMP establishing configuration control. This control shall include hardware, software, firmware, and documentation. The Contractor shall prepare and submit Engineering Change Proposals (ECP), Requests for Deviation, and Requests for Waiver for Government approval.

3.5.2.4 Configuration Audits. The Contractor shall conduct configuration audits.

3.5.2.4.1 Functional Configuration Audit (FCA). The Contractor shall conduct the FCA at the completion of the first article on-site testing to validate that the configuration items satisfy all specification performance and functional characteristics.

3.5.2.4.2 Physical Configuration Audit (PCA). The Contractor shall perform a PCA at the completion of the first article on-site testing and concurrent with the FCA. The final Product Baseline (PBL) shall be established at the completion (approval) of PCA.

3.5.3 Integrated Logistic Support (ILS). The Contractor shall plan, manage and execute an ILS program in accordance with the requirements contained herein.

3.5.3.1 Technical Manuals. The Contractor shall obtain or develop and submit technical manuals for the BILS system and all modified NDI/COTS equipment. Technical manuals shall describe the technical characteristics, equipment, software, and operation and maintenance of the BILS. The manuals shall address all systems, subsystems, assemblies, subassemblies, and other maintenance significant equipment and software/firmware. Included in manuals shall be operating instructions, maintenance procedures and diagrams, electrical schematic diagrams, equipment layouts, fault isolation procedures, and troubleshooting procedures. The Contractor shall prepare and submit Technical Manuals to the Government for review and approval. Technical manuals and other technical publications required by this section and expressly prepared or modified for this contract shall be delivered in draft, preliminary and final formats for Government approval. The deliveries shall be in hard copy and electronic media. Documents not expressly prepared for this contract such as COTS technical manuals, component specification sheets, etc. shall be provided in the commercially available format.

3.5.3.2 Commercial Manuals. The Contractor shall provide commercial manuals for all NDI/COTS equipment.

3.5.3.3 Maintenance . The Contractor shall determine maintenance requirements and develop scheduled and preventive maintenance procedures and schedules for the BILS Structure and all of its installed and portable equipment. These procedures and schedules shall be included with the maintenance procedures and data requirements identified in Section 3.5.3.1.

3.5.4 Test and Evaluation Management. The Contractor shall perform Test and Evaluation (T & E) management to support the BILS production program. T&E planning shall be performed on first article and full production units.

3.5.4.1 T&E Planning. The Contractor shall prepare and submit a T & E plan for Government approval. The test plan shall include factory component and assembly testing, factory shelter integration testing, factory hatch testing, and acceptance testing.

3.5.4.2 Factory Test Documentation. The Contractor shall prepare and submit factory production test procedures and factory production test reports for each production test for Government approval.

3.5.4.3 Acceptance T & E Documentation. The Contractor shall prepare and submit acceptance test procedures and acceptance test reports for each BILS acceptance test for Government approval.

3.6 Spares, Tools, and Test Equipment Requirements. The Contractor shall perform the analysis necessary to identify, document, and recommend spares, tools, and Support and Test Equipment.

3.6.1 Spares Recommendation List. The Contractor shall prepare and submit a list of recommended spare parts for Government review and approval.

3.6.2 Ten-year Follow-on Spares and Repair Parts. The Contractor shall provide follow-on spare parts for the BILS. Spare parts shall be delivered to the National Logistics Supply Center in Kansas City, MO. These spare parts shall maintain a complete spare part requirements for 10 years (sparing to the 10% level) as recommended by the Contractor to meet the required system reliability and maintainability needs. The Contractor shall prepare and submit follow-on Spares and Repair Parts data. The Contractor shall provide a Certificate of Compliance concurrent with each delivery of follow-on spares and repair parts.